RIVERS AND FLOODS

By R. E. SPENCER

Floods during October, confined chiefly to the rivers of Texas, were in the main of little consequence. Exceptions were those in the Rio Grande and the Brazos, $15,000 damage having occurred near Del Rio, Tex., on the Rio Grande, and $14,000 in the vicinity of Waco. Tex., on the Brazos. The Rio Grande loss was the result of damage to dam construction works; that on the Brazos was distributed as follows:

Tangible property	$7,000
Unharvested crops (7,000 acres)	5,000
Suspension of business	2,000

In addition, "considerable" crop losses are reported to have resulted from overflows along Brazos River tributaries.

High stages continue in the Trinity River at Dallas, Tex., as a result of dams used in levee work in progress below the gage.

The official in charge of the Weather Bureau office at Pittsburgh, Pa., comments as follows upon river conditions in his district: [1]

Navigation was suspended on account of low water in the Monongahela River above the seventh pool, about July 24, when it became impossible to maintain pool-full stages. On that date the lower gage at lock No. 10 showed 6.0 feet, which was 1.3 feet below the crest of dam No. 8, 11 miles below. By September 1 the stage at No. 10 had dropped to 4.0 feet, which was 3.3 feet below the crest of dam No. 8, and by October 1 the stage at No. 10 was down to 1.3 feet, and remained at that stage throughout the month, due to a pool formed by shoals about 1,000 feet below the dam. The only water feeding the pool was the leakage through lock and dam No. 10. The upper gage at lock No. 8 showed 0.8 foot of water October 31, which meant that the pool was empty. A stream flow measurement at lock No. 10, by the United States Army Engineers, the latter part of October, showed the flow to be 5 second-feet.

[1] Cf. p. 401.

[All dates in October except as otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI DRAINAGE					
	Feet			*Feet*	
Republican: Concordia, Kans.	8	15	15	8.2	15
Canadian:					
Canadian, Tex.	5	12	12	6.0	12
Union City, Okla.	7	13	14	8.2	14
North Canadian: Woodward, Okla.	4	13	13	4.0	13
Ouachita: Arkadelphia, Ark.	12	8	8	16.2	8
WEST GULF DRAINAGE					
Trinity: Dallas, Tex.	25	8	8	25.8	8
Brazos: Waco, Tex.	27	6	7	30.7	6
Colorado:					
Austin, Tex.	18	7	8	22.5	7
		18	18	18.0	18
Columbus, Tex.	28	10	12	30.8	11
		19	21	31.9	21
Rio Grande:					
Del Rio, Tex.	10	5	6	15.5	6
		15	15	11.1	15
Eagle Pass, Tex.	16	7	7	17.1	7
San Benito, Tex.	23	11	12	23.7	11
		19	22	24.1	21
		25	25	23.0	25
		31	31	23.0	31
Pecos: Pecos, Tex.	11	19	19	12.0	19

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. G. TINGLEY

October may be said to inaugurate the winter season on the North Atlantic inasmuch as the average number of gales north of the forty-fifth parallel is sufficient to call for winter freeboard after the 16th of the month for vessels using the more northerly trans-Atlantic routes. There are, however, variations from one year to another in the number of gales as well as in their intensity and geographical distribution. In the month under review the number of gales reported was very close to the normal. More were reported than in October, 1929, but considerably fewer than in October, 1928, which was regarded as an exceptionally stormy month, especially over the middle and eastern portions of the ocean.

The distribution of pressure, as shown in Table 1, did not vary greatly from normal, except for the region north of the British Isles. Here low pressure prevailed, as shown by the negative departure of 0.26 inch at Lerwick, Shetland Islands. The average departure from normal for this group of 13 stations was, for the month under review, 0.08 inch. In October, 1928, a month of fewer gales, the group departure was 0.07 inch, while in October, 1928, just referred to as a stormy month, it rose to 0.10 inch.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, October, 1930*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.76	(1)	30.28	7th	29.18	19th.
Belle Isle, Newfoundland	30.01	[2] +0.14	30.48	8th	29.60	19th.
Halifax, Nova Scotia	29.98	[3] −0.06	30.38	8th [4]	29.38	26th.
Nantucket	30.01	[3] −0.07	30.30	12th [4]	29.26	25th.
Hatteras	30.06	[3] −0.04	30.36	22d	29.78	15th.
Key West	29.95	[3] −0.01	30.16	31st	29.82	1st.
New Orleans	30.05	[3] −0.01	30.50	31st	29.82	28th.
Cape Gracias, Nicaragua	29.83	[2] −0.09	29.94	21st [4]	29.74	2d.
Turks Island	30.00	[3] +0.05	30.10	21st	29.90	2d.
Bermuda	29.96	[3] −0.11	30.18	29th	29.66	25th.
Horta, Azores	30.14	[2] +0.02	30.46	22d	29.48	14th.
Lerwick, Shetland Islands	29.53	[2] −0.26	30.46	2d	29.01	24th.
Valencia, Ireland	29.77	[2] −0.14	30.19	3d	29.12	17th.
London	29.86	[2] −0.05	30.42	2d	29.28	8th.

[1] No normal available.
[2] From normals shown on Hydrographic Office Pilot Charts, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.
[3] From normals based on 8 a. m. observations.
[4] On other date or dates.

Fog was reported on from 10 to 12 days over the Grand Banks; on from 5 to 6 days along the American coast north of Cape Cod, and on from 1 to 5 days over the central portion of the northern steamer lanes. Vessel reports received show only 5 occurrences of fog during October east of the fifteenth meridian.